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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,378	11/01/2005	Pierre Dufresne	PET-2179	4572

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EXAMINER	
HAILEY, PATRICIA L	
ART UNIT	PAPER NUMBER
1793	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,378	DUFRESNE ET AL.	
	Examiner	Art Unit	
	PATRICIA L. HAILEY	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/28/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicants' Preliminary Amendment, filed on November 1, 2005, has been made of record and entered. In this amendment, claims 3-5 and 7-12 have been amended to eliminate multiple claim dependency; no claims have been canceled or added.

Claims 1-12 are pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on March 28, 2005.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. ***Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

Claims 1-12 are indefinite because claim 1 lacks antecedent basis for the phrase "said presulfurized catalyst".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 2, 4-6, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansford et al. (U. S. Patent No. 3,287,257) in view of Eijsbouts et al. (U. S. Patent No. 6,753,291).

Hansford et al. disclose methods for activating and/or regenerating a hydroconversion catalyst, wherein the catalyst is subjected to sulfidation, and following the sulfiding, the catalyst is subjected to oxidation. The reactor in which sulfiding takes

place is flushed with inert gases such as nitrogen, and the catalyst bed temperature is adjusted to the initial desired oxidation temperature. Ordinarily, undiluted air (considered to read upon the limitation "wherein said gas is dry" in **claim 4**) may be employed for the oxidation at atmospheric pressures (though subatmospheric or superatmospheric pressures may also be employed), and at oxidation temperatures ranging from about 600°F to 1200°F (315.5°C to 648.9°C; considered to read upon the limitation "exceeding 50°C"). See col. 4, lines 12-31 of Hansford et al. As 1 atm equals 101.325 kPa, the teachings of Hansford et al. regarding atmospheric, subatmospheric, and superatmospheric pressures are considered to read upon the oxygen partial pressures recited in **claim 1**. Additionally, it may be desired to employ initially more dilute oxygen-containing gases, and/or to initiate the oxidation at relatively low temperatures, going to higher temperatures for completion. See col. 4, lines 12-31 of Hansford et al.

Hansford et al. also disclose that it is feasible to perform oxidation with air containing about 0.25 volume percent water vapor (considered to read upon the limitation "wherein said gas is wet" in **claim 5**); oxidation is preferably carried out in an atmosphere containing about 0.005 to about 0.5 psia partial pressure of water vapor (0.034-3.44 kPa; considered to read upon the oxygen partial pressures recited in **claim 6**). See col. 4, lines 33-44 of Hansford et al.

Following the oxidation, the catalyst is flushed, reduced, and is then in suitable activated state for use in hydrocracking or other hydrocarbon conversions (such as

hydrocracking, hydroconversion, etc.; considered to read upon **claims 9 and 10**). See col. 4, lines 45-56 of Hansford et al.

Hansford et al. do not teach or suggest that the oxidation is performed "ex situ", nor does the reference teach or suggest the employment of a fixed or fluidized bed.

Eijsbouts et al. disclose that it is known in the art to sulfide catalysts in manners such as fixed bed and moving bed (e.g., fluidized bed; considered to read upon **claims 11 and 12**) processes (col. 4, lines 48-59), and that, if said sulfiding is carried out ex situ, it may be desirable to passivate the sulfided catalyst in this way, as sulfided catalysts are self-heating. Passivation can be done by contacting the sulfided catalyst with an oxygen-containing compound under controlled conditions. See col. 5, lines 15-31 of Eijsbouts et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hansford et al. by employing a fixed or moving (e.g., fluidized) bed to sulfide and passivate (via contact with an oxygen-containing gas) the catalyst, motivated by the teachings of Eijsbouts et al., which further discloses that ex situ sulfiding and passivation “simplifies the reactor start-up.” See col. 5, lines 11-14 of Eijsbouts et al.

8. Claims 2, 3, and 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansford et al. (U. S. Patent No. 3,287,257) in view of Eijsbouts et al. (U. S. Patent No. 6,753,291) as applied to claim 1 above, and further in view of Pegels (U. S. Patent No. 4,029,599).

Hansford et al. and Eijsbouts et al. are relied upon for their teachings with respect to claim 1. Although Hansford et al. disclose the employment of atmospheric, subatmospheric, and superatmospheric pressures, this reference does not specifically disclose the oxygen partial pressures recited in claims 2 and 3. Also, neither of these references teach or suggest the oxidating temperature range recited in claim 7.

Fegels teaches a method in which, subsequent to purging a reactor containing a catalyst, an oxygen-containing gas is introduced into the purge gas, and gradually increasing the oxygen content until the oxygen partial pressure is brought to at least 0.2 kg/cm^2 (about 20 kPa; considered to read upon **claims 2 and 3**). See col. 3, lines 4-12 of Fegels.

The oxygen content of the purge gas is preferably controlled so that the temperature of the purge gas remains below 150°C. See col. 4, lines 9-14 of Fegels.

The teaching "below 150°C" is considered to overlap the claimed temperature range of "between 75 and 120°C" recited in **claim 7**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hansford et al. and Eijsbouts et al. by contacting the catalyst with oxygen-containing gas at temperatures below 150°C, motivated by the teachings of Fegels that an excessive rise in temperature involves the disadvantage of components being oxidized in the reactor which in fact need not be oxidized, see col. 4, lines 45-55 of Fegels.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansford et al. (U. S. Patent No. 3,287,257) in view of Eijsbouts et al. (U. S. Patent No. 6,753,291) as applied to claim 1 above, and further in view of Dufresne (U. S. Patent No. 6,059,956, Applicants' submitted art).

Hansford et al. and Eijsbouts et al. are relied upon for their teachings with respect to claim 1. Although Hansford et al. disclose the employment of atmospheric, subatmospheric, and superatmospheric pressures, this reference does not specifically disclose the oxidation treatment implemented in two stages, as recited in claim 8.

Dufresne is relied upon for its teachings that ex situ oxidative passivation can be performed in two stages or several stages with a gradual increase in the oxygen concentration. See col. 3, lines 46-61 of Dufresne.

It would have been obvious to one of ordinary skill in the art to modify the teachings of Hansford et al. and Eijsbouts et al. by performing the oxidation in two or more stages, with a gradual increase in the oxygen concentration, as suggested by Dufresne et al., to obtain a catalyst with higher activity (col. 3, lines 54-56 of Dufresne).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry A Lorengo/
Supervisory Patent Examiner, Art Unit 1793

/PATRICIA L. HAILEY/
Examiner, Art Unit 1793
April 25, 2008